EMERGENCY ORDER
No. 15

UNITED STATES DEPARTMENT O
Federal Railroad Admi[illegible]
Office of Chief Counsel

Conference Notice No. 3

On July 26, 1991, the Federal Railroad Administration (FRA) issued Emergency Order No. 15 requiring that trains operated by the Florida East Coast Railway Company sound their whistles when approaching public highway-rail grade crossings. This Order preempted Florida laws banning the nighttime use of train whistles.

I. FRA's Consideration of the Florida Whistle Ban

A Florida statute, effective July 1, 1984, authorizes local governments to ban the use of train borne audible warning devices between the hours of 10 p.m. and 6 a.m. by trains approaching highway-rail crossings that are equipped with train-activated flashing lights, bells, crossing gates, and highway signs indicating that train whistles will not be sounded at night. Fla. Stat. § 351.03(4)(a) (1984). After enactment of this law, many local jurisdictions passed whistle ban ordinances.

In August 1990, FRA issued a study of the effect of the Florida train whistle ban through 1989. The study compared the FEC's post-ban accident record at crossings subject to a ban with four control groups to determine the impact of the ban and to eliminate variables that may otherwise have affected the results. The study indicated a strong correlation between nighttime bans and the number of accidents at highway-rail crossings subject to bans.

Using the first control group, a comparison of FEC's pre-ban and post-ban accident records was made, and post-ban records revealed a 195 percent increase in accidents. Based on the experience of the other control groups and the pre-ban trend, it was estimated that 49 post-ban accidents would have been expected. In fact, however, 115 post-ban accidents occurred, an increase of 167 percent over the number that would have been consistent with the pre-ban trend, leaving 66 crossing accidents statistically unexplained. Nineteen people died and fifty-nine people were injured in the 115 crossing incidents after establishment of the bans. Proportionally, at least 11 of the fatalities and 34 of the injuries can be attributed to the 66 unexplained accidents.

With the second control group comparison, FRA determined that the pre- and post-ban daytime accident rates remained virtually unchanged for the same highway-rail crossings at which the whistle ban was in effect during nighttime hours.

The third control group comparison showed that at the 89 FEC crossings where the bans were not imposed, the number of nighttime accidents increased by only 23 percent.

Finally, FRA compared the 1984 through 1989 accident record of the FEC, which is required to comply with local whistle sounding ordinances, with that of the parallel rail line of CSX Transportation Company (CSX), which is not subject to such ordinances because it operates interstate. By December 31, 1989, 511 of the FEC's 600 gate-equipped crossings were affected by whistle bans. Accident data from the same period was available for 224 similarly equipped CSX crossings in the 6 counties in which both railroads operate. FRA found that FEC's nighttime accident rate at impacted crossings increased 195 percent after whistle bans were imposed. At similarly equipped CSX crossings, the number of accidents increased 67 percent.

In August of 1990, in an effort to develop further information and to advise local authorities of the risks apparently posed by the ordinances, FRA provided copies of its study to officials of each county and municipality with bans in effect, to the Florida Department of Transportation, and to fifteen members of the state legislature. No county or municipality acted to repeal or modify its whistle ban ordinance in light of the report. In fact, the number of FEC highway-rail crossings subject to the ban actually increased to 537.

FRA continued to monitor accident data for FEC crossings. Analysis of the 1990 data shows a continuation of the post-ban trend. There were 23 nighttime accidents at crossings subject to bans, but only one accident at the FEC's remaining 65 grade crossings. The 55 highway-rail crossing accidents reported by the FEC resulted in 15 deaths and 20 injuries. Six of these fatalities and seven injuries occurred at crossings during the ban period of 10 p.m. to 6 a.m.

In 13 of the nighttime accidents at crossings subject to the bans, the highway vehicle went around or through the gate. In the other ten, the highway user failed to clear the crossing prior to the train's arrival, suggesting the motorists were unaware of the proximity of the train.

Preliminary data for the first six months of 1991 show six fatalities and six injuries at whistle ban crossings during nighttime hours. The increase in nighttime accidents at crossings subject to the bans in the post-ban period did not abate in the first half of 1991. During this time, a smaller study, conducted by the Public Utility Commission of Oregon, corroborated FRA's effort and led to the recision of whistle bans in Oregon.

Since the Emergency Order was issued, FRA has received twenty-one petitions requesting withdrawal or modification of the Emergency Order.[1] See attached Table One. Included as petitioners are two counties and thirteen cities containing approximately 31 percent of the impacted crossings.

Review of the Order is provided for in section 203(b) of the Federal Railroad Safety Act of 1970, 45 U.S.C. § 432(b), and section 554 of Title 5 of the United States Code. Administrative procedures governing such review are found in 49 CFR Part 211 (see § 211.47, .71-.75). By agreement with the original petitioner, the City of Hollywood, the opening meeting of the conference process was held on September 13, 1991. Representatives of fourteen petitioners attended this meeting, the first stage in the administrative review of the Order.

At the meeting the parties agreed on the following informal, target schedule: (1) by October 15, the petitioners would make written submissions to FRA, presenting facts, arguments, and proposals for modification or withdrawal of the Emergency order, and (2) by November 15, FRA would respond in writing.

Subsequent to this initial meeting fifteen petitioners submitted additional information and comments. One of these submissions was a collaborative effort endorsed by six of the original cities and one county. The other original county withdrew its appeal stating, "the evidence presented by the FRA . . . convinced the County representative that the . . . emergency order . . . was in the public interest." In addition, two late petitioners have been added to the list, a city and a county.

Due to the late receipt of some petitioner filings and the complexity of the issues involved, FRA's response has been delayed. This Notice provides FRA's written response. In preparing this notice, FRA considered the petitions of the twenty active petitioners, the submissions of additional data and arguments, and the comments of the participants in the meeting of September 13.

II. FRA's Response to Petitioner Filings

FRA responds below to each argument advanced by the petitioners in four sections. These arguments were divided by the subjects they address; first, the accuracy of FRA's whistle ban study, second, other potential causes for the accident increase,

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[1] One of the twenty-one petitioners, Indian River County, withdrew its petition on September 25, 1991.

third, FRA's justification for issuing the Emergency Order, and fourth, FRA's willingness to consider alternative or mitigating remedies.

A. FRA's Whistle Ban Study.

Nearly every petitioner has questioned of the accuracy of some part of FRA's whistle ban study; however, FRA's analyst used the most conservative methods to complete this study. For example, in comparing pre- and post-ban data, the assumption was made that all crossings involved were gated throughout the time studied, although many crossings were not gated until the bans took effect. Previous studies have shown that installing gates reduces accidents by 85 percent. Gating additional crossings should therefore have produced a reduction in post-ban accidents, making more alarming the increase that actually occurred.

The petitioners have criticized the data FRA used in its study and the relevancy of certain control groups.

Regarding the underlying data, five petitioners stated that collisions occurring when the motor vehicle either is stalled or stopped on the crossing, runs into the side of a train, or is hit by a second train, after waiting for the first, should not have been included in our study, because the "lack of whistle should not be considered a factor." Three petitioners excluded these accidents from their own analysis citing this justification.

A total of 35 accidents were included in our July 1990 report where it was reported that the motor vehicle was stopped or stalled on the crossing. Whistles would probably not have prevented these accidents. In our Even-History analysis, 18 of these accidents occurred pre-ban and 17 were recorded post-ban. When these figures are excluded, the number of accidents in the pre-ban period changes from 39 to 21, and the number of accidents in the post-ban period decreases from 115 to 98. The resulting comparison of 21 to 98 accidents produces a 367 percent increase, compared to the 195 percent increase cited in our original report. FRA, however, made the conservative choice to include all accidents which occurred within the study period.

FRA made a similar choice by not subtracting accidents where a motor vehicle struck the side of a train. If the 9 pre-ban and 26 post-ban vehicle hitting train accidents are excluded, the pre-to-post accident comparison becomes 30 to 89. The increase would then be over 196 percent. In addition, if all the accidents questioned by the petitioners were not considered, the pre-to-post comparison would be 12 to 72 accidents, an increase of 500 percent.

FRA's data, however, records that the average position of the train car struck by the nine vehicles in the pre-ban period was number 37 in line. The average position of the train car struck by the 26 vehicles which hit trains in the post-ban period was number 12. This seems to indicate that cars stop when approaching a crossing as a whistle sounding locomotive is passing, while cars approaching a few seconds or minutes later, when the locomotive and whistle have moved well up the line, are hitting the train, on average, at the 37th car. The post-ban data suggest that the same driver who stopped earlier on hearing the whistle, no longer receives this warning and hits the train much farther forward at the 12th car. Although this is intuitively acceptable, the numbers appear to be too small and variable for real statistical confidence. Consistent with our conservative approach to this analysis, we retained these accidents within the pool for consideration.

Finally, FRA believes the whistle is particularly pertinent in accidents involving a second train. For example, a driver whose view is blocked by the first train and who decides to go around the down gate is totally dependent upon hearing the second train. The whistle serves that purpose admirably. The number of second train accidents for the pre-ban period was zero, while four were reported post-ban. We would disagree with dropping these reports from consideration, however the overall impact would be small.

One petitioner has suggested that accidents which occur at crossings with a history of being blocked by frequent train movements should be excluded from consideration. Though we can appreciate a driver's frustration when faced with such a situation, we do not understand the rationale for excluding such accidents. The whistle may well provide the driver (and the flagman in the case cited) the realization that another train is approaching the crossing.

The collaborative submission, subscribed to by six jurisdictions as well as the originator, raises questions of the reliability of using CSX Transportation's corridor as one of the four controls. These petitioners note that FRA had not done a county-by-county comparison of CSX and FEC accident experience. One other petitioner also cited this omission. Such a comparison can now be made and is attached. See attached Table Two.

The county level comparison of FEC and CSX revealed that CSX's 67 percent post-ban increase in accidents was caused almost entirely by accidents occurring in Duval County. FEC and CSX operations do not paralell in Duval County. If one considers only data from counties in which both companies' mainline tracks paralell, CSX shows only a ten percent increase in

accidents. The data indicate that something changed for CSX operations and crossings in Duval County during the period studied to create this anomaly. A county-by-county comparison, therefore, only serves to reinforce the conclusion of the study.

Four petitioners assert that the data fail to support the conclusion in the study. Three parties predicated their argument on fragmented data, looking only at the small number of crossings in their jurisdictions. The fourth did not understand that the FRA study contrasted periods of crossing experience of identical duration. This fourth petitioner considered the whistle bans to be universal subsequent to June 1984 and predicated arguments on a simple comparison of pre- and post-June 1984 accidents per crossing numbers.

The whistle bans were not universally adopted in 1984. They were incrementally established and complied with by the FEC in 36 different jurisdictions between July 1984 and December 1989, the end of the FRA study period. In fact, the process continued, with two more jurisdictions issuing bans in 1990. This incremental implementation of the bans, which never did become universal, must be considered when making before and after comparisons.

In addition, in order to calculate ratios for accidents per gated crossing, one petitioner cites data on the number of FEC crossings equipped with gates. Such data were derived from FRA's annual Rail-Highway Crossing Accident/Bulletins and reflect a sharp increase in gated crossings in 1985 (from 480 in 1984 to 602 in 1985). Such a precipitous increase did not occur, and we feel obligated to comment on this oversight and to correct the record. The source material is in error. Inventory data about crossings is voluntarily provided to FRA by states and railroads. No regulations apply. Some providers do a better job than others at keeping the Inventory data current. (It should be noted, however, that accident reports are filed with FRA pursuant to law, and omission and errors regarding these reports subject the originator to considerable fines.) The number of FEC public crossings equipped with gates from 1979 through 1990 is attached. See attached Table Three.

B. Other Potential Causes for the Accident Increase.

The collaborative submission asserts FRA has taken "an unsatisfactory, one-dimensional approach to its analysis of the problem . . . .," and cites a number of "highly relevant factors" FRA "failed to evaluate properly . . . ." These factors and FRA's responses follow:

1. Train speed.

Previous analytic research of the FRA and the Transportation Systems Center has established that train speed is not a factor in determining the likelihood of a traffic accident at a highway-rail crossing which is equipped with automatic warning devices (as are all of the impacted crossings). Speed is a factor in determining the severity of an accident once it has occurred. This work is well documented in Rail-Highway Crossing Resource Allocation Procedure, User's Guide, Third Edition, August 1987.

2. Train operator error or negligence.

None has been alleged or brought to the attention of the FRA. In fact, there is little a train operator can do to avoid a traffic accident at a highway-rail crossing other than blow the whistle, which had been enjoined.

3. Population density.

Comparisons to population growth in Florida and in Florida's eleven east coast counties have been reviewed vis-a-vis the increase in nighttime train-involved traffic accidents. Also reviewed, as possible indicators or surrogate measures, were numbers of fatal highway accidents, registered drivers and motor vehicles. None of these, individually or in combination, provide more than a partial explanation for the 195 percent increase in nighttime crossing accidents at the impacted crossings. See attached Tables Four to Six.

4. The deliberate, reckless actions of drivers and pedestrians who ignore traffic control devices.

There is no doubt that a driver or pedestrian who deliberately ignores a traffic control device and strikes or is struck by a train is performing in a reckless manner. No evidence exists, however, to suggest that reckless driving increased, resulting in the dramatic growth in the number of accidents. In fact, nighttime highway accidents and collisions at the crossings in the controls indicates that driving habits did not make such a change. The number of

fatal highway accidents tracks closely to population and does not reflect a change in accident rates during the period studied. See attached Table Seven.

5. Whether traffic control devices were functioning properly at the occurrence of accidents.

Nine FEC highway-rail crossing accidents, since 1975, have been reported concurrent with the warning device's failure to operate. Only one of these occurred at night during the post-ban period. Accordingly, this consideration is not relevant to the issue at hand.

6. The number of trains in operation before and after the train whistle ban.

Unfortunately, such data are not readily available, if at all, and there is no reasonable way to gather it. Definitions are a problem. The first question which arises is, when was the whistle ban established? The answer is different depending on which crossing is being discussed. The problem is compounded when one considers that many trains are enroute at the hours of 10:00 PM and 6:00 AM when the bans become effective and ineffective respectively. How should these trains be counted? FEC's submission to this docket indicates once again that "the number of trains increased slightly during the period between 10:00 PM and 6:00 AM, but did not begin to approach the increase in accident rate discovered by FRA."

7. The number of train miles before and after the train whistle ban.

FRA has compiled and graphed the total number of train miles accumulated and reported by the FEC for each month as required by 49 CFR Part 225. This graphic displays no significant change in accumulated train miles to account for the sharp increase in accidents. See attached Table Eight. The FEC docket submission notes "that its operations have kept pace with its increases in traffic and that the 10% to 11% increase in locomotive miles reflects it (sic) overall traffic patterns." The definition of "train miles" is "[t]he movement of a train for a distance of one mile. Mileage is not to be increased because

of the presence of multiple locomotives in the train." FRA Guide for Preparing Accident/Incident Reports, July 1986.

8. The impact of drugs or alcohol on individual accidents.

No breakdown of drug-and-alcohol impaired drivers was made for three reasons: first, these data are not available to the FRA; second, there is no ancillary evidence of a change in the rate of drug or alcohol impairment rates during the study period; and third, the effect of a train whistle on an impaired driver is not known except by the empirical evidence generated by this study. Conceivably, a whistle might be the very stimulus which attracts an impaired driver's attention.

9. Whether accidents occurred with more frequency at certain railroad crossings.

Certainly they did, but they are possible at any and all crossings. Since 1975 through August 1991, the FEC has reported 302 accidents between 10:00 PM and 6:00 AM inclusive. These occurred at 176 different crossings. The distribution was as follows:

Accidents reported per crossing:	1	2	3	4	5	6	7	8	9
Crossings:	119	29	10	8	2	5	2		1
Accidents:	119	58	30	32	10	30	14		9

As can be seen, a majority of the accidents (177) occurred at crossings (148) experiencing only one or two accidents since 1975. Accident experience is wide spread. The petitioners' request for the number of accidents in a particular city or county is attached. See attached Table Nine.

FRA concludes that the only likely cause for the increase is the implementation of local whistle bans.

C. Justification for Issuing the Emergency Order.

The Federal Railroad Administrator is empowered to issue an emergency order wherever there is a risk of death or injury to the public or railway employees. The most frequently cited

argument raised by the petitioners is that the threat to safety was not sufficient to outweigh the intrusiveness of train whistles on the peace and tranquility of local communities. In support of their position, the petitioners cited the infrequency of accidents, the culpability of motor vehicle operators, and the existence of warning devices at impacted crossings.

During the period studied, which varied by crossing based on the effective dates of the whistle ban ordinances, there were 373 highway-rail crossing accidents at 511 crossings. Of these, 154 occurred during nighttime hours, 10:00 PM to 6:00 AM, 39 before the bans were in effect and 115 in an identical period after the bans were implemented. (Daytime accident rates, when whistle bans are not effective, did not change.) Though crossing accidents are relatively rare occurrences, this collective experience, especially the remarkable escalation in accident frequency, begs for recognition.[2]

Charging drivers with responsibility for their own actions is as appealing as it is right, but sentencing them to a one in five chance of death for a motor vehicle infraction is draconian. (Better than one in five highway-rail crossing accidents reported by the FEC in 1990 resulted in one or more fatalities.) Overlooked in the argument that "drivers ... go around the gates, assuming their own risk...." are potentially innocent victims, such as other passengers, railroad crew, other motorists and pedestrians, and property owners near the rail right-of-way. Nationally, five railroad crewmembers died as a result of highway-rail crossing accidents in 1990, and 147 crewmembers were injured. Nine railroad passengers were also injured. Of the 15 highway-rail crossing fatalities reported by the FEC in 1990, only eleven were drivers.

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[2]Both because of the size of this data base (511 impacted crossings and a total of 46,748 crossing-months of pre- and post-ban experience) and because of the magnitude of the increase in accident frequency, FRA confidence in these data, findings and conclusions is high. However, such confidence would be misplaced if conclusions were to be drawn from subdivisions of the data, for example, from specific crossings in individual towns, cities and most counties. It is as wrong as it is tempting to isolate a few crossings in one jurisdiction and to cite recent accident experience as indicative of conditions which may or may not occasion a crossing accident. Crossing accidents are relatively rare events, and conclusions should only be drawn from aggregations of similar data sufficient to produce statistically reliable results.

The collaborative petition alleges that the FRA study was "merely a justification of assumptions held for the convenience of the FEC." The petitioners imply that FRA conducted this study with pre-set assumptions. Nothing could be further from the truth. Our effort was entered into without anticipating or establishing any expected results. In fact, we were doubtful we would find any clear demarcation attributable to the whistle bans, and we were genuinely surprised by the findings. We were so surprised, almost incredulous, that we issued the report with a request for comments "particularly on the question of whether the trend can be explained by factors other than the whistle ban." We waited a year, only to find that the trend was continuing, and that no offered explanation had withstood scrutiny.

While it is not true that FRA sought to justify some preconceived assumptions, it is true that lifting the bans is a position supported by the FEC. The FEC has requested that the Emergency Order be made permanent. While the FEC argues that the use of strobe lights and reduced train speeds are ineffective replacements for train whistles, the railroad does not present a conclusive case. As we will discuss below, there are several proven measures that could be taken to increase safety absent the use of train whistles. In addition, there are experimental devices which cannot be categorically rejected, because there is no evidence to prove or disprove their effectiveness.

FRA also believes that the intrusion of noise endured by the citizens of Florida, represented by the petitioners, demands that the agency not discount future innovation in eliminating the need for train whistles.

Several petitioners have argued there was insufficient evidence of an emergency to authorize action by the agency. FRA can issue emergency orders where an unsafe condition or practice creates "an emergency situation involving a hazard of death or injury." Federal Railroad Safety Act of 1970, 45 U.S.C. 432(a). FRA's study of crossing data concluded that the number of accidents, and therefore the risk of injuries and fatalities, had tripled since the implementation of whistle bans by local governments. The finding of an "emergency" was clearly supported by the accident data.

One petitioner argued that the use of train whistles is contrary to Environmental Protection Agency (EPA) noise reduction standards. This is not true. EPA regulations specifically exempt train whistles from noise standards. 40 CFR § 201.10. It is the conclusion of FRA's Florida whistle ban study that the use of whistles reduces accidents. It is therefore "for safety" that FRA has ordered their use.

D. Experimental Measures and Exceptions to the Emergency Order.

Several petitioners attempted to identify instances where the ban allegedly does not impair safety. Some parties also proposed measures which they believe would enhance safety in compensation for the whistle bans. While FRA is willing to consider alternative safety measures, there are currently no grounds for creating exceptions to the Order.

Frequently cited suggestions included selectively banning whistles at specific crossings or narrowing the time the ban is in effect. Lifting the order for crossings that have not had accidents fails to consider that accidents at highway-rail crossings are relatively infrequent events. The accident rate increase occasioned by the whistle bans is evident only when all similarly impacted crossings are considered together. The causal condition, the whistle bans, affects all crossings in the group. Therefore, the accident rate increased at all crossings in the group, though it is not yet evident at all crossings on an individual basis because of the relative infrequency of crossing accidents.

Similarly, narrowing the time frame for whistle bans is also unacceptable due to the fact that the accident rate is so wide spread. In addition, just because the number of accidents is lower at a given hour does not mean that the whistle bans have not increased the accident rate for that hour. Night time accidents on the FEC between 1975 and August 1991 inclusive have been distributed as follows:

	PM		AM						
Hour:	10	11	12	01	02	03	04	05	TTL
Accidents:	52	42	46	39	40	33	25	25[3]	302
Percent:	17	14	15	13	13	11	8	8	100

As can be seen, the distribution is weighted toward the evening hours and slowly declines.

It has also been asserted that safety can be enhanced by allowing the locomotive engineer greater discretion to use the whistle when an accident is imminent. Discussion with locomotive engineers and consideration of the physics involved will dissuade the objective observer from this course. As a motor vehicle approaches a highway-rail crossing, or any intersection, it enters what traffic engineers call "the nonrecovery zone." This is the final length of roadway on the

[3]Includes five accidents which occurred at 6 AM.

approach to the tracks. Its length varies according to the speed and braking system of the motor vehicle, the reaction time of the driver, road and tire conditions, and the warning devices at the crossing. By definition, just prior to the nonrecovery zone is the last opportunity for the driver to make a decision which will provide him sufficient distance to stop. At many crossings, the highway vehicle enters the nonrecovery zone long before it can even be seen by the locomotive engineer. At other crossings, the vehicle may be visible, but the driver's intent is not discernible to the locomotive engineer. By the time the driver's intent not to stop is recognized, it is too late to sound the whistle to give effective warning. The prudent locomotive engineer, given the option, will sound the whistle for all crossings, if for no other reason but to protect himself from a wrong decision.

Jurisdictions have proposed to improve signs or install four-quadrant gates. Such innovations must be considered as potential, but long term solutions. Four-quadrant gates are warning device gates which block the highway's exit lanes as well as the approach lanes, thus closing off the option of going around a gate. Traffic engineers will argue the merits of this approach, but FRA believes it deserves further experimentation. Procedures for initiating a traffic control device experiment are detailed in the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices, Part 1A-6, Section 3. Prior field experimentation has been reported in a study prepared by the University of Tennessee for the FHWA titled, Field Evaluation of Innovative Active Warning Devices for Use at Railroad-Highway Grade Crossings, Publication Number FHWA-RD-88-135, August 1988. The FRA would not be the proper agency to conduct such experiments, though we would willingly participate or assist in planning and analysis, support the request to experiment, and would consider allowing reimposition of the ban for crossings involved in the experiment for the duration of the period studied.

One petitioner has offered stricter law enforcement in exchange for retaining the whistle bans. Aggressive law enforcement has repeatedly made a difference in safety, reducing violations, accidents and casualties. Experience shows that successful law enforcement initiatives should be coordinated with the railroads, the media, and local elected and administrative officials. A minimum program would result in citations to perpetrators following crashes. A more sophisticated option would result in citations being issued to individuals who go around gates. This can be accomplished by synchronizing police surveillance of crossings with advance knowledge of railroad operations, thus minimizing police patrol time at crossings.

Some programs have occasionally placed officers on trains, who then communicate with patrols. Operation Lifesaver (OL) has often been the local catalyst for such efforts. Operation Lifesaver, Inc. has published a brochure called "Law Enforcement Guide for Rail/Highway Grade Crossing Crash Prevention/Investigation." Two individuals who can provide additional details include the Florida State coordinator for Operation Lifesaver and the Executive Director of Operation Lifesaver, Inc.'s national office:

Ms. Nathalie Herbst
Manager, Traffic Safety Dept.
AAA - Florida
1000 AAA Drive
Heathrow, FL 32746-5080
(407) 444-4137

Ms. Leila A. Osina
Executive Director
Operation Lifesaver, Inc.
1522 King Street
Alexandria, VA 22314
(800) 537-6224

Both the Florida East Coast Railway Company and CSX Transportation have participated in such programs. Florida's Highway Patrol Academy in Tallahassee periodically conducts a three day railroad crash investigation course which includes prevention elements for highway patrol officers. Possibly a regional training effort for police personnel from Florida's east coast counties and cities, patterned after the State program, could be arranged.

A variation of the enforcement theme is to place an automated video monitoring device at the crossing. Such devices are in use in Europe and have recently been demonstrated in this country in Jonesboro, Arkansas. Citations are issued on the strength of video evidence showing violators going around gates. This, of course, requires coordination between police, railroad and judicial officials. Petitioners may wish to contact the Chief of Police in Jonesboro, Mr. John Morgan, for a first hand account. At least two hardware suppliers are known to FRA. Such information will be provided should a petitioner choose to pursue this option.

As with the four-quadrant gates and improved signs, the enforcement option is considered to have merit, but it is also a long term solution, needing to be proven in the Florida setting. FRA is willing to participate in the design, conduct and assessment of an enforcement effort but would consider the banning of whistles only after it was shown that infractions have been significantly reduced if not eliminated. Periodic assurances of a sustained enforcement effort and reassessment of the infraction levels would probably be necessary.

III. FRA's Proposed Remedies

FRA has determined that Emergency Order No. 15 will remain in effect. While the agency has considered the petitioners' submissions, no party has proven that the findings of FRA's whistle ban study are inaccurate, or proposed an immediately acceptable alternative to the Order.

FRA, however, is determined to continue to work with the petitioners to promote crossing safety and reduce the impact of train whistle noise. As the next step in this conference process, the agency has identified certain options that might lead to increased safety and reduced noise.

FRA presents these potential remedial actions for discussion among the parties. The options are described in brief.

A. Remedial Options Identified by FRA.

First, FRA would like to study police reports of accident investigations to compile a profile of victims and more detailed causal information for accidents. If the necessary data are contained in police records, this study could lead to a better understanding of why train whistles contribute to safety and in determining where crossing safety education efforts need to be directed. The study could also identify the impact of drug and alcohol use on crossing accident rates. Local jurisdictions can assist by providing FRA the necessary police reports so that the agency can produce profiles of accident victims and causes.

Second, FRA will initiate a study on modifying the train horns in use on the FEC. The model currently used by the FEC, the S-3L-RF three-chime warning device, manufactured by Leslie Controls, Inc., is an air horn. Without sufficient air pressure, it is FRA's understanding that air horns will not consistently sound. FRA would like to determine this minimum level of air pressure and examine the impact the use of this sound level produces on crossing safety. FRA would also consider whether there is an ability to focus the sound safely down the right-of-way, limiting noise on neighboring communities. If FRA proceeds, the transportation safety experts at the Volpe National Transportation Systems Center in Cambridge, Massachusetts, will be asked to conduct the study.

And third, FRA will soon be issuing an Advance Notice of Proposed Rulemaking to determine whether a nationwide rule is needed regarding the use of train whistles at highway-rail grade crossings. When this process is initiated, FRA will schedule a public hearing in Florida on this issue and open the rulemaking docket to comments from the communities impacted by this Emergency Order.

In support of the rulemaking, FRA will be conducting a national study in cooperation with the Association of American Railroads and the American Short Line Railroad Association, the trade representatives for the rail industry. This study will seek to determine the impact of train whistle bans as they exist throughout the country. Data collected in Florida will be a part of this study.

B. Remedial Actions within the Control of Petitioners.

FRA also believes there are several steps the petitioners can take to resolve the safety issues raised by the whistle bans.

First, highway authorities can invest in grade separation to eliminate problem crossings. Grade separation not only enhances safety and limits the use of train whistles, but also contributes to the smooth flow of both rail and highway traffic. In this coming year, FRA will be initiating a nationwide effort to reduce the number of highway-rail grade crossings. This reduction can also be achieved by the closing of low traffic crossings, and the rerouting of highway traffic.

A less expensive alternative would be the nighttime closing of select roads leading to crossings. Several petitioners noted the large numbers of crossings in their communities placed closely together. FRA suggests that the lower volume of highway traffic at night might be redirected to fewer crossings without significant impact on traffic flow.

Second, local highway authorities can consider installing barriers to restrict motor vehicles from driving around downed gates. Referred to as "traffic divisional islands," these barriers "may be used at crossings on multi-lane roadways to prevent motorists from driving around a lowered gate." Federal Highway Administration, Railroad-Highway Grade Crossing Handbook, 1986, pp. 142-143 (The Handbook provides explicit guidance regarding engineering considerations which should be assessed when considering the use of such barriers.) Further study of individual grade crossings and accident data would be necessary to determine the requirements for installing barriers. Barriers are a highway device; therefore, FRA must work in consultation with FHWA to define the requirements for installation.

And third, FRA will support a waiver request to FHWA, seeking approval to experiment with four-quadrant gates. As noted above in the discussion of petitioners' submissions on this point, FRA will cooperate with any study of the results of installing the gates. Local highway authorities must apply for

a waiver from FHWA for the gates to be installed. In addition, the petitioners need to identify crossings and funding sources for these experimental devices.

C. Concluding the Conference Process.

FRA believes that steps listed above offer the opportunity to increase safety and reduce noise levels. In order to fulfill the promise of these options, FRA and the petitioners will need to work together to make these proposals a reality. If sufficient measures are taken to assure highway-rail grade crossing safety, FRA could then modify the Emergency Order.

When the parties met in Miami on September 13, it was agreed that another opportunity to meet and discuss solutions to the problems raised by the whistle bans could be arranged if the parties so requested. FRA has identified December 12, as the date when its representatives will be available to come to Miami for a second meeting with the petitioners. FRA is willing to discuss alternative dates for this meeting if the petitioners so request.

FRA regrets the delay in its response, but once again states that the agency is committed to concluding the conference process by January 1, 1992, if the parties so choose.

As this process continues, FRA will monitor accident/incident information for the FEC as it is collected. FRA will provide periodic updates of its findings to the petitioners.

Issued in Washington, D.C., on December 5, 1991.

S. Mark Lindsey
Chief Counsel

TABLE ONE

PARTIES AND REPRESENTATIVES

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TABLE TWO

Nighttime (10 PM -- 6 AM) Accidents
January 1975 -- August 1991

CSX at Gated Crossings by County	Pre80	80-84	85-89	Post89	Total
Broward	5	13	8	0	26
Dade	3	3	5	0	11
Duval	7	9	26	5	47
Martin	0	0	0	0	0
Palm Beach	5	3	8	3	19
Volusia	1	3	0	0	4
Total	21	31	47	8	107

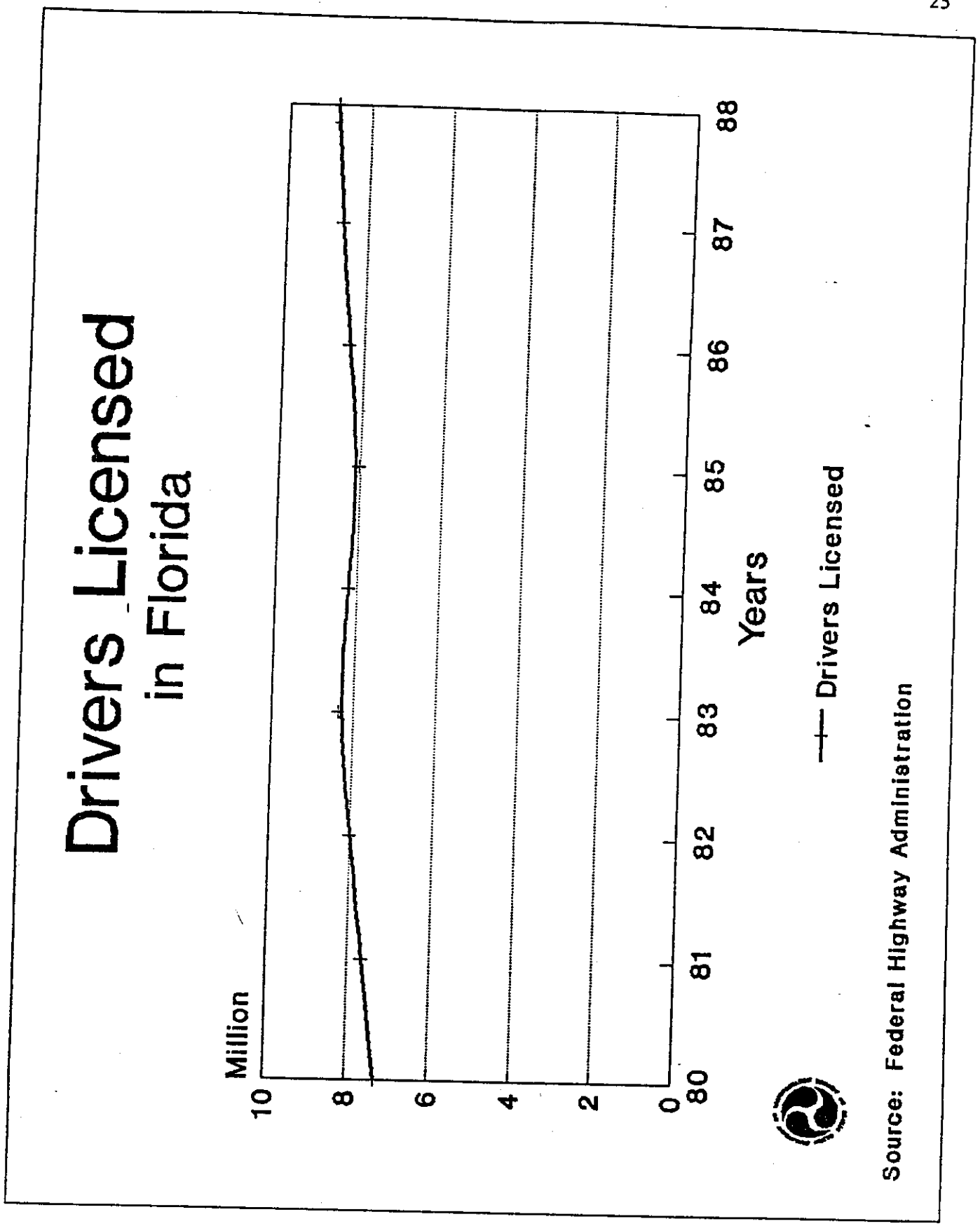
FEC by County	Pre80	80-84	85-89	Post89	Total
Brevard	4	6	10	8	28
Broward	13	17	31	9	70
Dade	26	13	38	8	85
Duval	3	1	0	0	4
Flagler	0	1	0	0	1
Indian River	0	1	5	1	7
Martin	1	1	2	1	5
Palm Beach	18	20	37	11	86
St Johns	0	0	0	1	1
St Lucie	3	1	2	0	6
Volusia	0	1	5	3	9
Total	68	62	130	42	302

Comparing those three counties (Broward, Dade and Palm Beach) where FEC and CSX operate in relatively similar corridors:

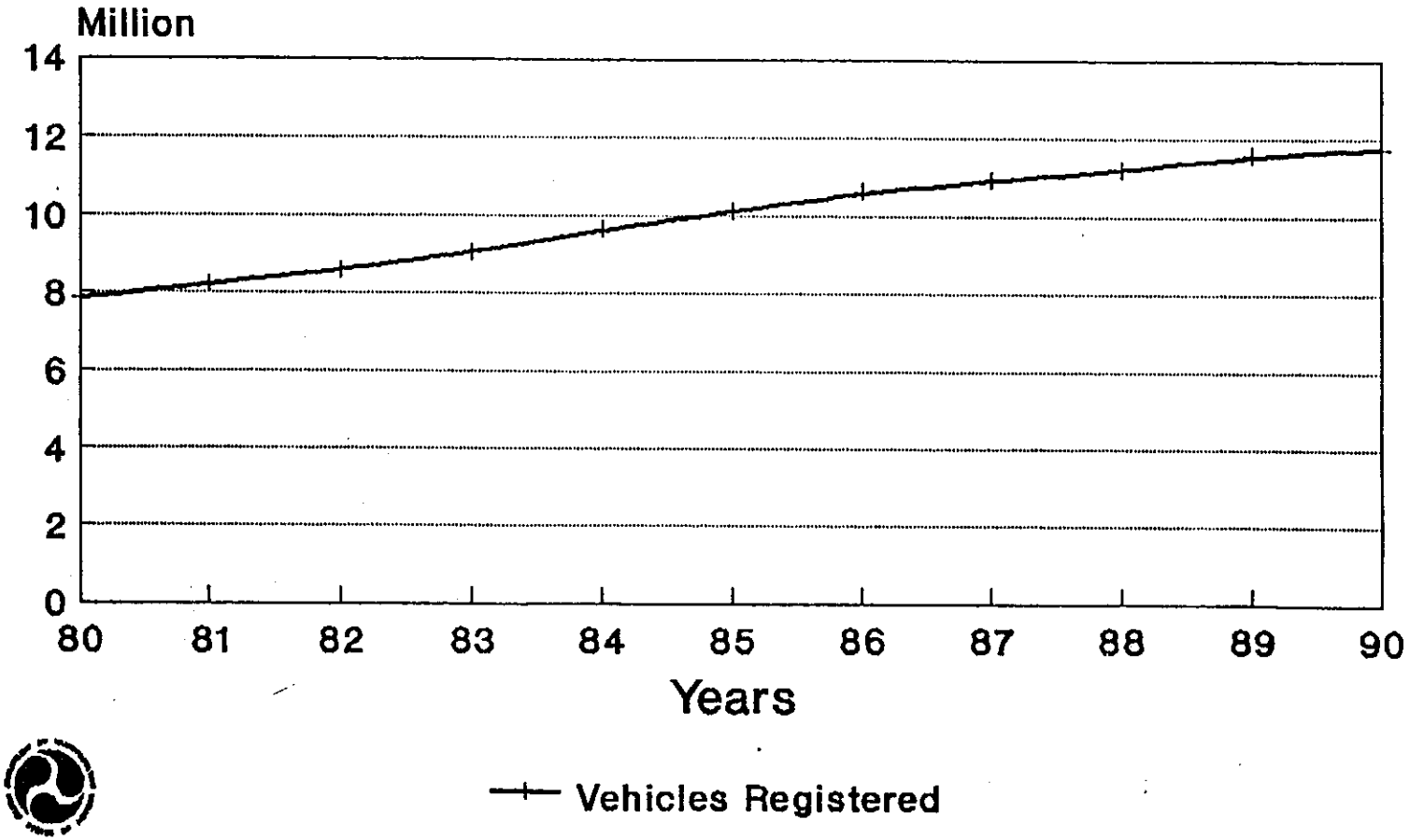
CSX	13	19	21	3	56
FEC	57	50	106	28	241

TABLE THREE

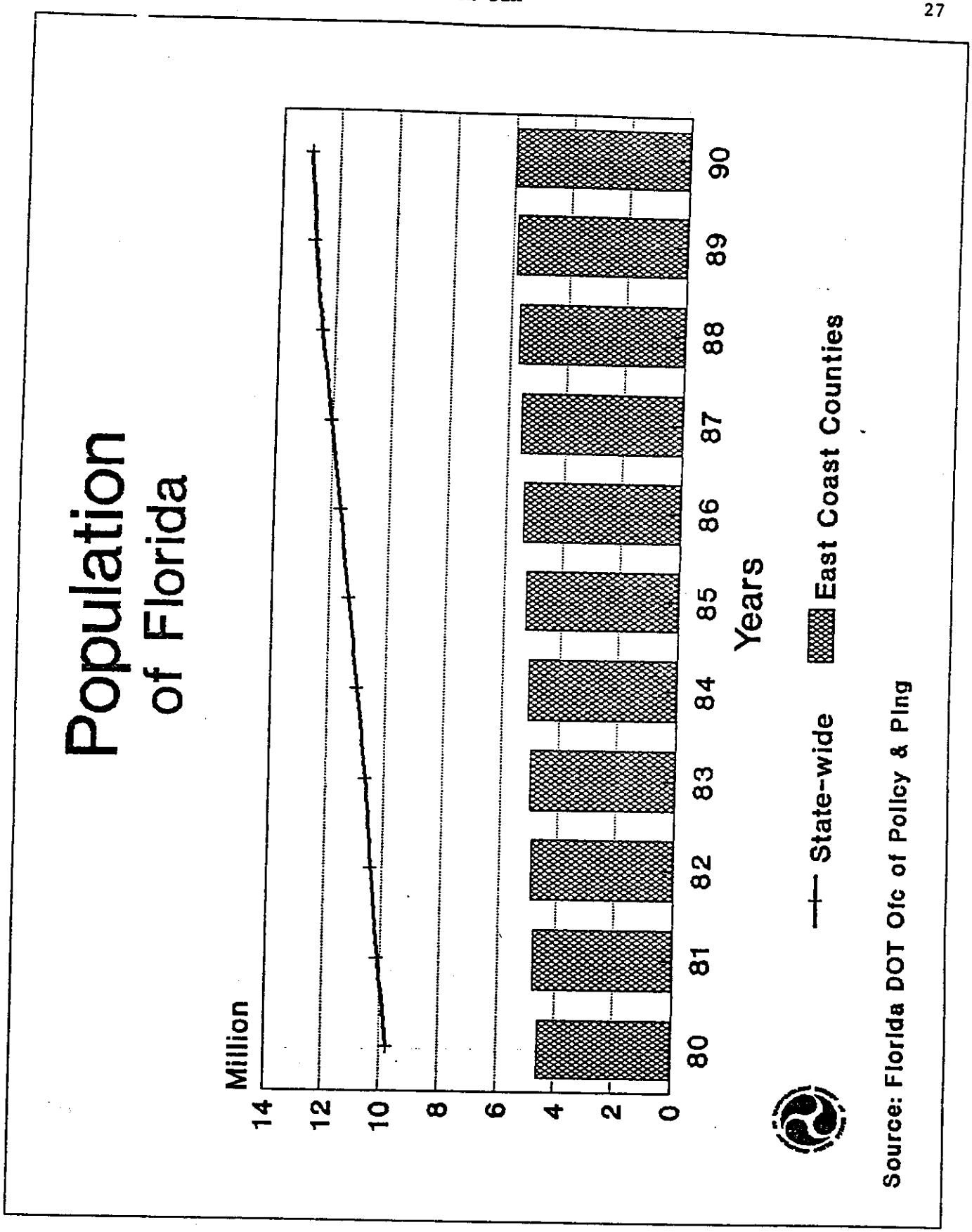
Year	Gated Crossings
1979	447
1980	510
1981	567
1982	608
1983	613
1984	613
1985	621
1986	621
1987	649
1988	649
1989	608
1990	608


Drivers Licensed
in Florida
Million
10
8
6
4
2
0
80
81
82
83
84
85
86
87
88
Years
Drivers Licensed
Source: Federal Highway Administration

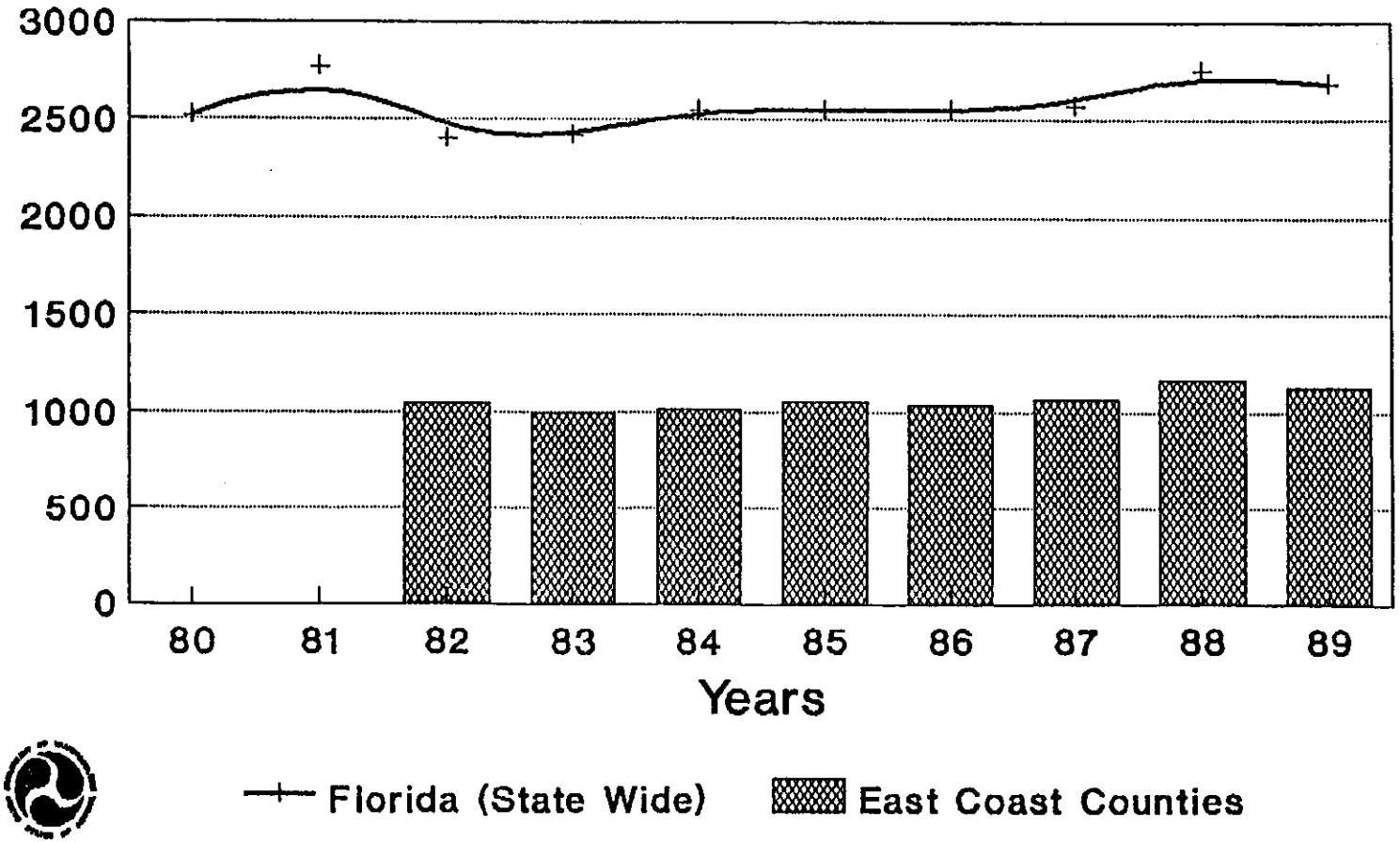
Motor Vehicles Registered
in Florida



Source: Federal Highway Administration

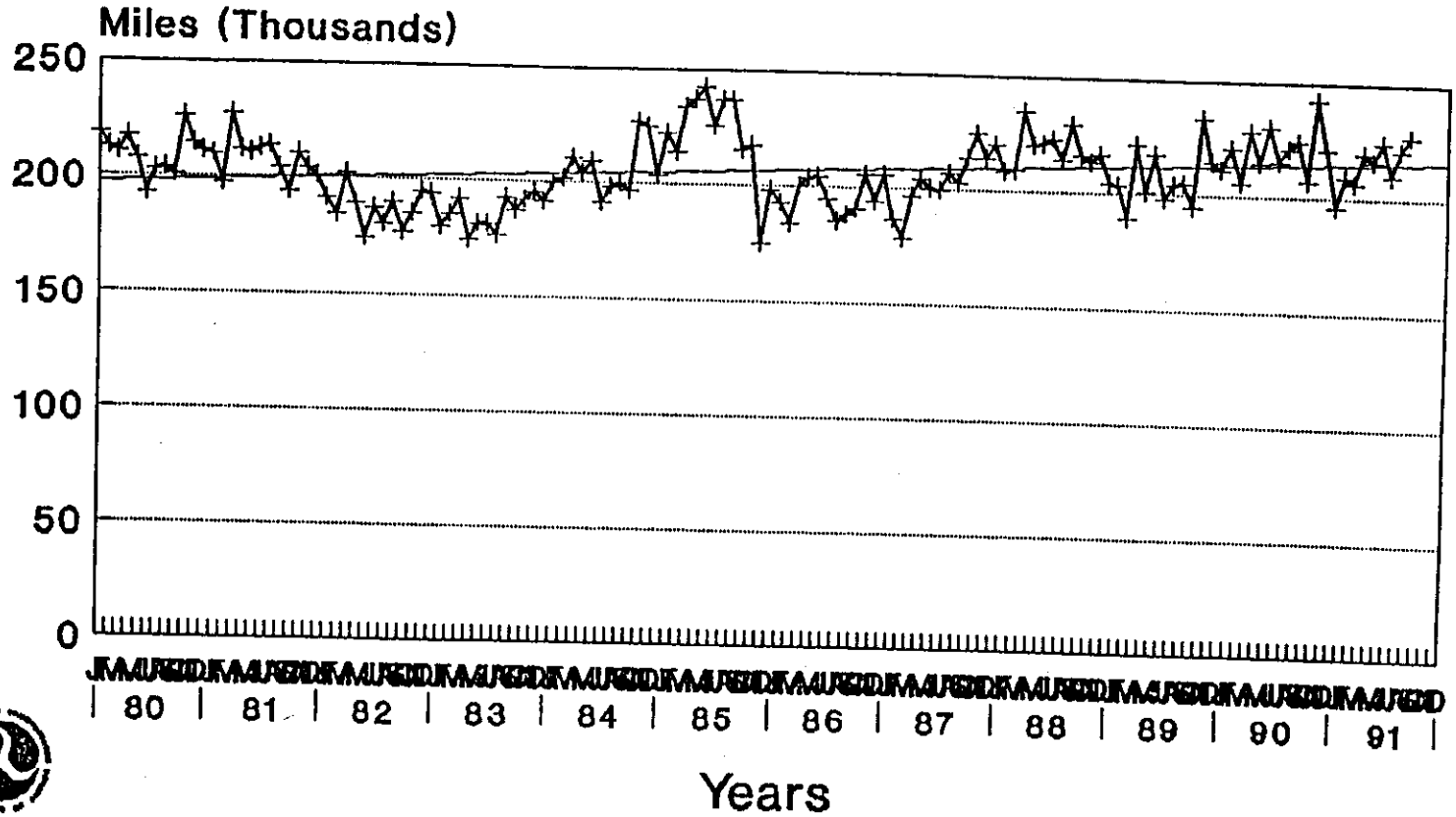

Population
of Florida
Million
14
12
10
8
6
4
2
0
80
81
82
83
84
85
86
87
88
89
90
Years
State-wide
East Coast Counties
Source: Florida DOT Ofc of Policy & Plng

Fatal Highway Accidents
in Florida and selected counties



Source: Federal Highway Administration

FEC
Locomotive Train Miles Operated



Source: FEC's Railroad Injury and Illness Summary reports submitted to FRA.

TABLE NINE

This list contains the approximate locations of all accidents between 10 PM and 6 AM inclusive, 1975 through August 1991 inclusive:

County	City	Accidents	Total
Brevard	Wiley	1	
	Scottsmoor	1	
	Titusville	4	
	City Point	1	
	Cocoa	7	
	Rockledge	2	
	Eau Gallie	5	
	Melbourne	3	
	Palm Bay	1	
	Micco	2	
	Bugbee	1	
			28
Broward	Deerfield Beach	10	
	Pompano Beach	17	
	Oakland Park	7	
	Wilton Manor	1	
	Fort Lauderdale	28	
	Dania	2	
	Hollywood	3	
	Hallandale	2	
			70
Dade	Miami	13	
	Miami Beach	3	
	Miami Shores	3	
	North Miami	6	
	North Miami Beach	1	
	Hialeah	56	
	Medley	3	
			85
Duval	Jacksonville	3	
	Greenland	1	
			4
Flagler	Bunnell	1	
			1

County	City	Accidents	Total
Indian River	Roseland	1	
	Wabasso	1	
	Gifford	1	
	Vero Beach	3	
	Oslo	1	
			7
Martin	Jensen Beach	2	
	Stuart	1	
	Port Salerno	1	
	Salerno	1	
			5
Palm Beach	Belle Glade	1	
	Monet	6	
	Jupiter	5	
	Lake Park	6	
	Riviera Beach	13	
	West Palm Beach	26	
	Lake Worth	15	
	Lantana	1	
	Hypoluxo	1	
	Delray Beach	6	
	Boca Raton	6	
			86
St Johns	St Augustine	1	
			1
St Lucie	Indrio	1	
	Ft Pierce	5	
			6
Volusia	Holly Hill	1	
	Daytona Beach	3	
	Port Orange	1	
	New Smyrna Beach	2	
	Edgewater	1	
	Ormond Beach	1	
			9
TOTAL			302